Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Applied Math Final Project***

Description/Overview:

This project is a cumulative one, and will use much of what you have learned in this class. You have completed projects like this during the course but now it is time for you to put it all together in a PowerPoint presentation of the plan for you. The final project will be divided into 5 sections: 1. Job, 2. Taxes, 3. Housing, 4. Bills, 5. Car. For the purposes of this project you are single and have no dependents.

* The project will be completed individually**. (NO EXCEPTIONS)**
* Each student will research and explore the 5 topics from class.
* The student will then create a PowerPoint presentation summarizing the results.
* Finally, each student will present their project to the class.

Technology Requirements:   
There will be an emphasis on the use of technology for this project. You will be graded on your ability to effectively use technology in conducting your research, analysis, and presentation of research.

* + The Internet can be a primary source for your research.
  + A Microsoft PowerPoint slideshow (or something comparable) must accompany the oral presentation.

Timeline:  
You will have time in class to complete the project. Use this time wisely. You may need to work outside of class as well. Important dates are as follows:

* + Days in class to work- **(5) January 9th – 13th**
  + Project Due –**by classtime January 17th**
  + Presentations- none

The presentation schedule will be determined *randomly* on that day, so you must be ready even if you don’t get called that day. I will accept volunteers that would like to present first.

Grading:

* + The project is worth 200 points- see rubric for exact values

***Part 1 : Jobs***

Find ***3*** jobs/careers that you could have with 4 years of post-secondary schooling **or less**. For each job/career you should have the following:

1. What is the job title

2. What is the job description

3. What are the educational requirements

4. What is the **annual** salary

5. What is your **monthly** income

The following websites may be helpful:

[www.monster.com](http://www.monster.com) [www.careers.com](http://www.careers.com) [www.localcareers.com](http://www.localcareers.com)

Then pick the one job that you will use for the rest of this project. Put all 3 jobs on your power point, and be sure to show which one you picked ***and WHY you picked it.*** See the rubric for details.

***Part 2: Taxes***

Use the job you selected in #1.

1. Find your Federal Income Tax withheld using the tables on pages 788-790. For the purposes of this project you are single with no dependents.
   1. First, find your WEEKLY salary (annual salary divided by 52). Then go to the charts to find out how much is taken out per week. Remember you are single, and have only 1 withholding allowance.
   2. Change this amount to ***monthly***: go up to annual (multiply by 52), then down to monthly (divide by 12). **DO NOT just multiply by 4.** Show work below.
   3. WRITE FINAL AMOUNT HERE: $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Find your State Income Tax withheld
   1. Start with ANNUAL income, take out the personal exemptions (Single = $1500, Married = $300, each dependent = $700). Remember, you are single, no dependents. Show work below.
   2. With this amount, find the state tax. Use 3% tax for PA. Show work below.
   3. Change to monthly (divide the amount by 12). Show work:
   4. WRITE FINAL AMOUNT HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Find your Social Security Tax withheld
   1. Start with ANNUAL income
   2. Take 6.2% on your **first $84,900** of income. Show work below.
   3. Change to monthly (divide by 12). Show work
   4. WRITE FINAL AMOUNT HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Medicare Tax
   1. Start with ANNUAL income
   2. Take 1.45% of **all** income. Show work below.
   3. Change to monthly (divide by 12). Show work.
   4. WRITE FINAL AMOUNT HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Local Tax
   1. Start with ANNUAL income
   2. Take 1% of annual income. Show work below.
   3. Change to monthly (divide by 12). Show work below.

* 1. WRITE FINAL AMOUNT HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Health Insurance
   1. We will assume that you get health insurance through your job. Since you are single, we will assume that your health insurance plan costs $10,000 per year. Your employer pays 75% of that. What percent do you pay?
   2. Multiply the percent that YOU pay by the cost of the plan. Show work below.
   3. Change to monthly (divide by 12). Show work below.

* 1. WRITE FINAL AMOUNT HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Calculate your MONTHLY take home pay to get a realistic look at what type of lifestyle you can lead.
   1. Take your monthly salary and subtract each of the taxes withheld (each amount written in the boxes above).
   2. WRITE FINAL AMOUNT (take home pay) HERE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Be sure to check the rubric and put all necessary calculations on your power point.

***Part 3: Housing***

1. You will need to find a place to live. For this project, you will be renting an apartment. Find an apartment that is located in this area (Bucks, Montgomery, or Philadelphia counties).

Use any reputable site to find a local apartment. Some suggestions include:

[www.apartments.com](http://www.apartments.com) [www.rent.com](http://www.rent.com) [www.apartmentguide.com](http://www.apartmentguide.com)

1. Once you choose your apartment, find the following information and add it to your power point:
   * Location (address and name of apartment complex, if there is one)
   * Number of bedrooms and bathrooms
   * Square footage
   * Rent per month
   * Amenities included (like gym, pool, parking, trash collection, etc.)
   * Pictures
   * Website you used to find the apartment
2. After you find your monthly rent, subtract it from your monthly take home pay (above). Write it below and put this on your power point.

**MONTHLY INCOME LEFT**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Part 4: Bills***

Using online research, you will find amounts for monthly bills for the following things: Cable/internet, cell phone, electric, groceries, etc.

* + 1. Groceries:
  1. Go back to your food budgeting power point. Use the total amount that you spent for the week in this project and divide it by 3 to get a single amount per week. Show work below. (If you did not do the food budgeting project, then you must use the full $200 amount from that project)
  2. Then take this amount and change to monthly (multiply by 52, then divide by 12). Show work below.
  3. Write final monthly food amount here: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Cable:
2. Go to [www.comcast.com](http://www.comcast.com). At the top, click on PRODUCTS and go to the XFINITY DOUBLE PLAY (this allows you to get TV and Internet together)
3. Scroll down on the page and look at the “TV + Internet” options.
4. There should be a few options for you to choose from. Pick one of the packages that they offer. Write it, & the price per month, below.

Package: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Price: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Electricity:
2. We will assume that your electric bills will be $75 per month. Put this amount below.

Total cost of Electricity per month: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Cell phone:
2. You will need to choose a cell phone provider and obtain your own plan. You may not use a pre-paid phone.
3. Go to any reputable cell phone provider (AT&T, Sprint, T-Mobile, Verizon, etc.) and find a plan that you want.
4. Write information about the plan on your power point:
   * Name of plan
   * Cost per month of plan
   * How many minutes & texts you get per month
   * Is there a data plan included (internet access)?
   * What is included in the plan (free nights & weekends, free calling to other mobile numbers on the same carrier, etc.)

Total cost of cell phone per month: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Student loans:
   1. If the profession that you chose in the first part of the project requires any college degree, then we will assume you have student loans. For this, we will assume $200 per month payment.
   2. If you will have student loans, put $200 below. If you will not, put $0.

Total Student loan cost: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Renter’s Insurance
2. We will assume that you pay $100 per year in renter’s insurance. Convert this to a monthly number (divide by 12) and write it below

Total Renter’s insurance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the total monthly bills and write it below. To do this, add up all the bills (from the boxes in this section).

TOTAL MONTHLY BILLS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. After you find your total monthly bills, subtract it from your monthly income left (above, after the rent). Write it below and put this on your power point.

**MONTHLY INCOME LEFT**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Check the rubric to see what you need to put on your power point from this section.

***Part 5: Car***

Each student will locate 1 car that they will purchase (no leasing). It can be NEW or USED. The monthly payments must be within your budget. ***Your car must be less than $40,000.***

The following websites may be helpful (Craigslist or eBay are not allowed)

[www.vehix.com](http://www.vehix.com) [www.honda.com](http://www.honda.com) [www.edmunds.com](http://www.edmunds.com) [www.carsense.com](http://www.carsense.com)

1. For the car, you must include the following on your power point. If you cannot find this information on the website you are purchasing from, use Google to search for it.

* Make, Model, Year of the car
* Options & all specifications
* Horsepower
* mpg (city and highway)
* MRSP (Sticker price)
* Dealership/place found
* Picture of the car
* Website used

1. For the monthly payments, use an online calculator.
2. We will assume you will be able to put 10% down from savings. Calculate this below (take the price of the car you found and multiply by 10%)
3. Now find the amount financed. Take the price of the car and subtract the down payment that you just calculated. Show this below.
4. Use this amount financed to find your monthly car loan payments.

* Go to <http://www.bankrate.com/calculators/auto/auto-loan-calculator.aspx>
* For the auto loan amount, put in your answer from (b) above
* Make the term 5 years (60 months)
* Make the interest rate 3% per year
* Use today’s date
* Click on the blue CALCULATE button.
* The monthly auto loan payment is listed right above the blue CALCULATE button.
* Write the amount below

MONTHLY CAR LOAN PAYMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Calculate the monthly insurance payment for the car. Have this on your power point.
   * + 1. Find the Annual Base Premium (= liability premium + comprehensive premium + collision premium).

***Use the chart on page 324 of the book***

* For liability coverage, use $50,000 property damage limits with 50/100 bodily injury limits.
* For the Comprehensive and Collision coverage
  + For a new car, use A10 class
  + For a used car use D13 class
* SHOW WORK HERE:
  1. Find the Annual Premium (= Annual Base Premium X driver rating factor (Assume you have a driver rating factor of 2.00)). Show work here:
  2. Find your monthly car insurance payment. Take Annual Premium and divide by 12. Show work here:

MONTHLY CAR INSURANCE PAYMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the total car payments you will make per month and write it below (add the monthly loan payment and the monthly insurance payment).

TOTAL MONTHLY CAR PAYMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. After you find your total monthly car payment, subtract it from your monthly income left (above, after the bills section). Write it below and put this on your power point.

**MONTHLY INCOME LEFT**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Check the rubric to see what you need to put on your power point from this section.

***CONCLUSION:***

* Create a slide on your power point with:
  + Total Monthly GROSS pay (before any bills/taxes/etc)
  + Total monthly take home pay (after taxes)
  + Each of the monthly totals from the sections above (housing, bills, car)
  + Total money left over each month (after subtracting each of the monthly totals from the take home pay)
* Create another slide with “What you will do with this extra money”
  + Suggestions: buy clothes, buy more food, go out to eat, see a movie each month, etc.
  + Estimate a monthly cost for the extra things that you choose. Tell us how much you want to spend per month on these extra things.
  + You CANNOT choose to save it all. You may save some. However you must pick at least one extra thing to spend your money on.
* Final Conclusion slide: What did you learn from this project or from this class in general.

***Power point***

Your power point must include the following…

* **Jobs slides:**
* A slide for each of the 3 jobs you chose to research, with the following info on each:
  + job title
  + job description
  + educational requirements
  + annual salary
  + monthly income
  + What website you used to get this information
* A slide with the decision of which job you will use for this project and ***WHY***
* **Taxes slides: (showing work for all)**
* Federal Income Tax PER PAYCHEK (monthly)
* State Income Tax PER PAYCHECK (monthly)
* Social security and Medicare taxes PER PAYCHECK (monthly)
* Local Tax PER PAYCHECK (monthly) and Health insurance PER PAYCHECK (monthly)
* Monthly take home pay
* **Housing slides:**
* Information and pictures about the apartment you chose
  + Location
  + Number of bedrooms & bathrooms
  + Square footage
  + Amenities included
  + Pictures
  + Website used to find the apartment
  + Rent per month
* Monthly income left (after subtracting the rent)
* **Bills slides:**
* Include a slide for each bill you found, the amount of the bill per month
  + Groceries
  + Cable/Internet
  + Electricity
  + Cell phone (with information about the plan)
  + Student Loans
  + Renter’s insurance
  + Total of all the monthly bills
* Monthly income left (after subtracting the bills from what you had left after the rent was subtracted)
* **Car slides:**
* Slide for your car with the following information
  + Picture of the car
  + Website (or place) where the car was found
  + Make, Model, Year of the car
  + Options
  + Horsepower
  + mpg (city and highway)
  + MRSP (Sticker price)
* Slide for monthly loan payment for the car (show work)
  + Down payment (10%)
  + Amount financed
  + Monthly payment (from online calculator)
* A slide for the monthly insurance payments for your car
  + Annual Base Premium (show work)
  + Annual Premium (show work)
  + Change Annual premium into a monthly payment.
* Total Monthly car payment (loan payment + insurance payment)
* Monthly income left (after subtracting the total car payment from what you had left after the bills were subtracted)
* **Conclusion slides:**
* A slide with the following:
  + Total MONTHLY GROSS pay (before anything is taken out)
  + Total Taxes
  + Total Rent
  + Total Bills
  + Total Car payments
  + Total leftover money for the month (monthly gross pay – taxes – rent – bills – car payments)
  + What you will do with that money
* Conclusion slide (what did you learn from this project or from this class in general)

**Grading Rubric**

**ITEM POINTS DEDUCTED**

**PACKET**

1. Completed packet (all work shown!) \_\_\_\_\_\_\_ 44

**POWER POINT**

1. **Title slide** \_\_\_\_\_\_\_ 2
2. **Jobs slides:**

Slide for each of the 3 jobs you chose to research, with the following info on each \_\_\_\_\_\_\_ 30

job title, job description, educational requirements, annual salary

monthly income, What website you used to get this information

Slide with the decision of which job you will use for this project and ***WHY*** \_\_\_\_\_\_\_ 2

1. **Taxes slides: (showing work for all)**

Federal Income Tax PER PAYCHEK \_\_\_\_\_\_\_ 3

State Income Tax PER PAYCHECK \_\_\_\_\_\_\_ 3

Social security and Medicare taxes PER PAYCHECK \_\_\_\_\_\_\_ 6

Local Tax PER PAYCHECK and Health insurance PER PAYCHECK \_\_\_\_\_\_\_ 6

Monthly take home pay \_\_\_\_\_\_\_ 2

1. **Housing slides:**

Information and pictures about the apartment you chose \_\_\_\_\_\_\_ 20

Location, Number of bedrooms & bathrooms, Square footage

Amenities included, Pictures, Website used to find the apartment

Rent per month

Monthly income left \_\_\_\_\_\_\_ 2

1. **Bills slides:**

Slide for each bill you found, the amount of the bill per month

Groceries \_\_\_\_\_\_\_ 3

Cable/Internet \_\_\_\_\_\_\_ 3

Electricity \_\_\_\_\_\_\_ 2

Cell phone (with information about the plan) \_\_\_\_\_\_\_ 8

Student Loans \_\_\_\_\_\_\_ 2

Renter’s insurance \_\_\_\_\_\_\_ 2

Total of all the monthly bills \_\_\_\_\_\_\_ 3

Monthly income left \_\_\_\_\_\_\_ 2

1. **Car slides:**

Slide for your car with the following information \_\_\_\_\_\_\_ 20

Picture of the car, Website (or place) where the car was found

Make, Model, Year, Options, Horsepower, mpg (city and highway)

MRSP (Sticker price)

Slide for monthly loan payment for the car (show work) \_\_\_\_\_\_\_ 8

Down payment, Amount financed, Monthly payment

Slide for the monthly insurance payments for your car (show work) \_\_\_\_\_\_\_ 8

Annual Base Premium, Annual Premium, Monthly payment.

Total Monthly car payment (loan payment + insurance payment) \_\_\_\_\_\_\_ 2

Monthly income left \_\_\_\_\_\_\_ 2

1. **Conclusion slides:**

Slide with the following: \_\_\_\_\_\_\_ 6

Total MONTHLY GROSS pay, Total Taxes, Total Rent, Total Bills,

Total Car payments, Total leftover money for the month

Slide for what you will do with that money \_\_\_\_\_\_\_ 5

Conclusion slide (what did you learn from this project or from this class in general) \_\_\_\_\_\_\_ 4

**TOTAL ON PROJECT: \_\_\_\_\_\_\_\_\_\_\_\_/200**